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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte YASUSHI SAYAMA,
HIRONAO MINATO, KOICHIRO TANI, KOICHIRO MITSUI,
KENGO OCHI, and MASATO ISONO

Appeal 2008-005405¹
Application 10/720,488
Technology Center 3700

Decided: August 14, 2009

Before TONI R. SCHEINER, DEMETRA J. MILLS, and
FRANCISCO C. PRATS, *Administrative Patent Judges*.

PRATS, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 involving claims to
disposable diapers with anti-slip zones. The Examiner has rejected the

¹ “The real party in interest in this appeal is UNI-CHARM CORPORATION of 182 Shimobun, Kinsei-cho, Shikokuchuo-shi, Ehime-ken, Japan” (App. Br. 3).

claims as lacking enablement and being obvious. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

STATEMENT OF THE CASE

The Specification discloses open-type disposable diapers that have anti-slip zones on the diapers' lateral elastic wing portions (Spec. 2-3). Appellants' Figure 1, reproduced below, is illustrative:

FIG. 1

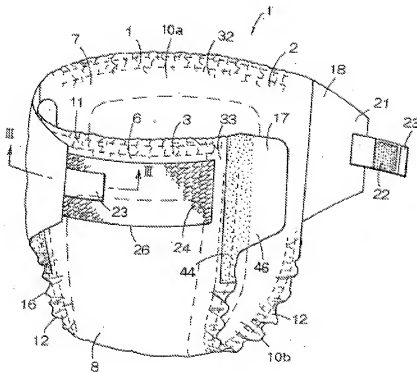


Figure 1 shows "a perspective view of an open-type disposable diaper 1 according to the present invention as put on a wearer's body" (Spec. 7). As seen in Figure 1, the diaper has rear wing portions 18 which are placed

over front wing portions 17 when tape fasteners 23 are anchored on landing zone 26 as the diaper is applied to the wearer.

Also shown in Figure 1, the portion of front wing 17 adjacent to landing zone 26 has an “anti-slip zone 44 as indicated by a plurality of spots” (*id.* at 10). In addition, adjacent to the anti-slip zone 44, the distal portion of each of the front wings 17 has a slip zone 46 (*see id.*).

According to the Specification, the anti-slip zone 44 on front wing 17 is constructed of materials capable of providing an optimal amount of friction between the front and rear wings such that, when the diaper “has been put on the wearer’s body with the tape fasteners 23 anchored on the landing zone 26, the rear wings 17 are prevented from easily slipping relative to the respective anti-slip zones 44” (*id.* at 15). “In this way, a fitness around the wearer’s legs is improved and leak of bodily fluids can be prevented” (*id.* at 17).

On the other hand, the anti-slip zone is also configured such that the amount of friction between the front and rear wing surfaces is not excessively high, thus ensuring that the diaper is “free from a problem that the presence of the anti-slip zones 44 might uncomfortably tighten [about] the wearer’s waist” (*id.* at 16). Similarly, slip zones 46 “avoid the inconvenience that the elastic stretch of the rear wing 18 might be constricted” (*id.* at 17).

Claims 2-21 are pending and on appeal (App. Br. 3). Claims 4, 11, and 13, the independent claims, are representative and read as follows:

4. An open-type disposable diaper configured by a front waist region, a rear waist region and a crotch region extending between said front and rear waist regions, said front and rear waist regions having a body facing surface and an

undergarment facing surface opposed to said body facing surface, said diaper being contoured by front and rear end zones extending in parallel to each other in a waist-surrounding direction and transversely opposite lateral zones extending in parallel to each other in back-and-forth direction crossing said waist-surrounding direction, said transversely opposite lateral zones in one of said front and rear waist regions being formed with first wings extending in said waist-surrounding direction, said first wings are respectively provided on said body facing surface with first fastener means and said undergarment facing surface in the other of said front and rear waist regions being provided with second fastener means on which said first fastener means may be detachably anchored, said disposable diaper further comprising:

said first wings being elastically stretchable in said waist-surrounding direction and said undergarment facing surface in said other waist region being provided in a vicinity of said second fastener means with anti-slip zones each adapted to come in contact with said body facing surface of said wings and to exhibit an average kinetic frictional force of 0.5 N or higher under a load of 58.23 g/9 cm² and an average kinetic frictional force of 5 N or lower under a load of 340 g/9 cm² relative to said body facing surface as said first fastener means being anchored on said second fastener means;

wherein elastic fibers made of a plastic elastomer and having a fiber length of 5 to 100 mm are mixed with inelastic fibers made of a thermoplastic material having a fiber length of 5 to 100 mm in said anti-slip zones.

11. A disposable diaper, comprising:

a main portion comprising a front waist region, a rear waist region and a crotch region extending in a longitudinal direction of said diaper between said front and rear waist regions, said main portion further comprising an inner surface adapted to face a wearer in use and an outer surface adapted to face away from the wearer in use;

a pair of wing portions extending outwardly in a transverse direction of said diaper from transversely opposite sides of said main portion in one of said waist regions, each of said wing portions comprising an inner surface adapted to face the wearer in use and an outer surface adapted to face away from the wearer in use, each of said wing portions further comprising a distal end and a proximal end which is closer to the respective one of the transversely opposite sides of said main portion than the distal end;

fastening elements on the inner surfaces and at the distal ends of said wing portions, the proximal ends of said wing portions being free of said fastening elements;

a landing zone on the outer surface of said main portion in the other of said waist regions, said fastening elements being releasably attachable to said landing zone for attaching said waist regions together; and

antislip zones on the outer surface of said main portion in the other of said waist regions and on opposite sides of said landing zone, said antislip zones being contactable with predetermined areas of the inner surfaces of the proximal ends of said wing portions, when said wing portions are attached to said landing zone, to resist relative movement between the predetermined areas of the proximal ends of said wing portions and the other of said waist regions;

wherein the antislip zones comprise a mixture of elastic fibers made of a plastic elastomer and inelastic fibers made of a thermoplastic material.

13. A disposable diaper, comprising:

a main portion comprising a front waist region, a rear waist region and a crotch region extending in a longitudinal direction of said diaper between said front and rear waist regions, said main portion further comprising an inner surface

adapted to face a wearer in use and an outer surface adapted to face away from the wearer in use;

a pair of wing portions extending outwardly in a transverse direction of said diaper from transversely opposite sides of said main portion in one of said waist regions, each of said wing portions comprising an inner surface adapted to face the wearer in use and an outer surface adapted to face away from the wearer in use, each of said wing portions further comprising a distal end and a proximal end which is closer to the respective one of the transversely opposite sides of said main portion than the distal end;

fastening elements on the inner surfaces and at the distal ends of said wing portions, the proximal ends of said wing portions being free of said fastening elements;

a landing zone on the outer surface of said main portion in the other of said waist regions, said fastening elements being releasably attachable to said landing zone for attaching said waist regions together;

antislip zones on the outer surface of said main portion in the other of said waist regions and on opposite sides of said landing zone, said antislip zones being contactable with the inner surfaces of the proximal ends of said wing portions when said wing portions are attached to said landing zone; and

slip zones on the outer surface of said main portion in the other of said waist regions, each of said antislip zones being positioned in said transverse direction between one of the slip zones and the landing zone, said slip zones being also contactable with the inner surfaces of the proximal ends of said wing portions when said wing portions are attached to said landing zone;

wherein a kinetic friction coefficient between the antislip zones and the inner surfaces of the proximal ends of said wing

portions is greater than that between the slip zones and the inner surfaces of the proximal ends of said wing portions; and

wherein each of the antislip zones comprises a fibrous mixture of elastic fibers and inelastic fibers.

The Examiner cites the following documents as evidence of unpatentability:

Damberg	US 5,151,230	Sep. 29, 1992
Sherrod et al.	US 2003/0124928 A1	Jul. 3, 2003
Kline et al.	US 6,755,809 B2	Jun. 29, 2004

The following rejections are before us for review:

Claim 4 stands rejected under 35 U.S.C. § 112, first paragraph, as lacking enablement for the full scope of the claim (Ans. 3).

Claims 2-4, 6-11, 13, 14, 16, 18, 19, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kline in view of Sherrod (Ans. 4-9).

Claims 5, 12, 15, 17, and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kline, Sherrod, and Damberg (Ans. 9-12).

ENABLEMENT

ISSUE

The Examiner concludes that the Specification is “enabling for anti-slip zones comprised of inelastic thermoplastic fibers mixed with plastic elastomer fibers in a particular weight ratio and the respective types of fibers having substantially identical melting points” (Ans. 3). The Examiner contends, however, that the Specification “does not reasonably provide enablement for an anti-slip zone having an average kinetic frictional force of

0.5 or higher under a load of 58.23 g/9 cm^2 or an average kinetic frictional force of 5 N or less under a load of 340 g/9 cm^2 ” (*id.*).

The Examiner reasons that “no amount of direction provided by the inventor in the disclosure will be sufficient to overcome the fact that the claimed ranges are not enabled by physical science” because the frictional values set forth in the claim “do not overlap” (*id.* at 13). The Examiner explains:

That is, there is no kinetic coefficient of friction of the same material that will simultaneously yield an average frictional force of 0.5 N or lower under a load of 58.23 g/9 cm^2 and 0.5 N or lower under a load of 340 g/9 cm^2 . It is proposed that a declaration under 37 C.F.R. 132 must be submitted as the only means to effectively overcome the rejection of claim 4 under 35 U.S.C. 112.

(*Id.*)

Appellants contend that the Examiner’s conclusion of a lack of enablement fails to consider the level of skill of an ordinary artisan, and the amount of guidance provided by the disclosure (App. Br. 10). Specifically, Appellants argue, the paragraph bridging pages 5-6 of the Specification defines the term “average kinetic frictional force” (*id.*).

In view of the positions advanced by Appellants and the Examiner, the issue with respect to this rejection is whether the Examiner erred in concluding that the Specification fails to provide sufficient guidance to make a disposable diaper as recited in claim 4, without undue experimentation, where the diaper has “anti-slip zones each adapted to come in contact with [a] body facing surface of [the] wings [on the diaper] and to exhibit an average kinetic frictional force of 0.5 N or higher under a load of 58.23 g/9

cm² and an average kinetic frictional force of 5 N or lower under a load of 340 g/9 cm² relative to said body facing surface.”

FINDINGS OF FACT (“FF”)

1. Claim 4 recites an open-type disposable diaper having, among other things, elastically stretchable wings. The diaper must also have anti-slip zones in a vicinity of a second fastener means.

The diaper’s anti-slip zones must each be adapted to come in contact with the body facing surface of the wings, and to exhibit an average kinetic frictional force of 0.5 N or higher under a load of 58.23 g/9 cm² and an average kinetic frictional force of 5 N or lower under a load of 340 g/9 cm² relative to the wings’ body facing surface, when a first fastener means is anchored on the second fastener means.

2. The Specification provides the following guidance with respect to determining the friction between the two surfaces:

In this invention, the average kinetic frictional force is measured using the method prescribed paragraph 3.1 of JIS (Japanese Industrial Standard) P 8147. A weight of 3 cm x 3 cm and adapted to apply a load of 58.23 g/9 cm² or 340 g/9 cm² is used to carry out this measurement. Moving velocity of the weight is set to 10 cm/min. This measuring method will be described more in detail with reference to Fig. 5 of the accompanying drawings.

(Spec. 5.)

3. Appellants’ Figure 5 is reproduced below:

FIG. 5

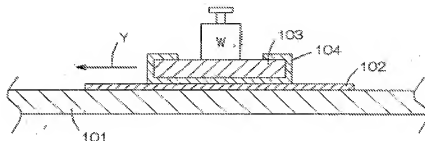


Figure 5 shows:

An entire area of a sheet 102 defining the body facing surface in the first wings of the disposable diaper is fixed to a smooth upper surface of a fixed plate 101 by means of double-faced adhesive tape (not shown). A movable plate 103 has its lower surface of 3 cm x 3 cm and a total weight of this movable plate 103 is adjusted by a weight W so that a load of 58.23 g/9 cm² or 340 g/9 cm² is applied to the lower surface. Such movable plate is used as the weight. Then the movable plate 103 is pulled in a direction indicated by an arrow Y and thereby moved by 5 cm. An average kinetic frictional force (unit: N) is calculated from values of frictional force measured in the course of this movement.

(Spec. 5-6.)

4. Regarding materials suitable for constructing the non-slip zones, the Specification discloses:

To realize the front wings 17 having such anti-slip zones 44, after a basic body of the front wing 17 has been formed, for example, by a nonwoven fabric made of polypropylene continuous fibers having a fineness in range of 1 to 4 dtex and a basis weight in a range of 30 to 100g/m², the proximal end portions 42 thereof are joined to the transversely opposite lateral zones of the body section 16. The sheet-like fibrous mixture consisting of elastic fibers of styrene-based block

copolymer such as SEBS, SEPS or SBBS having a fineness in a range of 0.1 to 3 dtex and inelastic fibers such as polypropylene-based fibers having a fineness in a range of 0.1 to 3 dtex may be placed upon and intermittently heat-sealed to desired zones of the nonwoven fabric.

(Spec. 11.)

PRINCIPLES OF LAW

The Examiner bears the burden of establishing that practicing the full scope of the claimed subject matter would have required undue experimentation. *In re Wright*, 999 F.2d 1557, 1561-62 (Fed. Cir. 1993) (“[T]he PTO bears an initial burden of setting forth a reasonable explanation as to why it believes that the scope of protection provided by that claim is not adequately enabled by the description of the invention provided in the specification of the application.”).

While the Specification must enable the skilled artisan to practice the full scope of the claimed subject matter, “[i]t is well settled that patent applicants are not required to disclose every species encompassed by their claims, even in an unpredictable art.” *In re Vaeck*, 947 F.2d 488, 496 (Fed. Cir. 1991). Moreover, a claim does not lack enablement merely because it encompasses inoperative embodiments. *Atlas Powder Co. v. E.I. du Pont De Nemours & Co.*, 750 F.2d 1569, 1576 (Fed. Cir. 1984).

Thus, as our reviewing court has noted:

[T]here must be sufficient disclosure, either through illustrative examples or terminology, to teach those of ordinary skill how to make and how to use the invention as broadly as it is claimed. This means that the disclosure must adequately guide the art worker to determine, without undue experimentation, which species among all those encompassed by the claimed genus possess the disclosed utility.

Vaeck, 947 F.2d at 496 (footnote omitted).

ANALYSIS

We agree with Appellants that the Examiner erred in concluding that the Specification fails to provide sufficient guidance to make a disposable diaper as recited in claim 4. As we understand it, the Examiner's position is that it is physically impossible for a material to meet the range of frictional values recited in claim 4.

However, the Examiner has failed to adequately explain why that is the case. The Specification clearly sets forth the method required for testing the friction between two materials (FF 2-3), and provides examples of materials that can be used to create an anti-slip zone having a friction value within the claimed range (FF 4).

Claim 4 requires the diaper's anti-slip zone to exhibit an average kinetic frictional force of 0.5 N or higher under a load of 58.23 g/9 cm^2 . Claim 4 also requires the diaper's anti-slip zone to exhibit an average kinetic frictional force of 5 N or lower under a load of 340 g/9 cm^2 .

We acknowledge that it might be less than conventional to set the claimed range's lower limit of friction in relation to a relatively light weight, and the higher limit in relation to a relatively heavier weight. However, the Examiner has not explained why two materials exhibiting a friction of, say 0.51 N, when tested under a weight of 58.23 grams, could not also exhibit a friction under 5 N when tested under a weight of 340 grams.

In sum, because the Specification discloses materials that meet the claimed range of friction values, and discloses how to test other materials to determine whether they meet the claimed criteria, and because the Examiner

has not adequately explained why it is physically impossible for two materials to meet the claimed friction range, we reverse the rejection of claim 4 as being non-enabled.

OBVIOUSNESS

ISSUE

Claims 2-4, 6-11, 13, 14, 16, 18, 19, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kline in view of Sherrod (Ans. 4-9).

The Examiner cites Kline as disclosing a disposable diaper that meets the limitations of independent claims 4, 11, and 13, requiring the claimed diapers to have anti-slip zones:

Fastening system 40 [of Kline] is designed to achieve resistance against peel-mode disengagement (anti-slip) by altering the dimension of the engaging area and using alternate materials (i.e. creating anti-slip zones) near or on fastening element 49 (i.e. surrounding and/or on opposite sides of said element), which would thus be near or on the outer surface of chassis 22 in the front waist region 36.

(Ans. 5.)

The Examiner also cites Sherrod as evidence of the desirability of anti-skid zones on a disposable diaper:

Sherrod teaches coating a bottomsheets 28 with an anti-skid coating over substantially all of said sheet. Sherrod teaches that this prevents back and forth movement of said absorbent article, thus it would be obvious to one of ordinary skill in the art to apply a skid-resistant material to areas near the elastic leg cuffs of the article taught by Kline to prevent movement during wear that could cause chafing as taught by Sherrod.

(*Id.* at 4.)

The Examiner further finds that Kline meets the independent claims' limitation requiring the anti-slip zone to have both elastic and inelastic fibers, noting Kline's teaching that "backsheet 26 is comprised of a thermoplastic film, but teaches that the backsheet 26 is elastically extensible, and said backsheet 26 is comprised of blends of elastomeric films (comprised of elastic fibers) and foams, which are comprised of inelastic fibers" (*id.* at 5-6 (citing Kline, col. 5, ll. 14-17)).

With respect to claim 4, the Examiner urges that suitable frictional values for the anti-skid zones would have been determined through routine optimization (*id.* at 6). With respect to the slip zone recited in claim 13, the Examiner urges that the "outer surface of chassis 22 taught by Kline defines a slip zone as it is free of landing zone elements 49 which contain peel-mode disengagement resistance materials disposed thereon and thereabout" (*id.* at 8).

Appellants contend that the Examiner failed to make a prima facie case of obviousness "at least because (i) the references are not properly combinable . . . and/or (ii) the references combined in the manner proposed by the Examiner would fail to teach or disclose all limitations . . . of, at least, the rejected independent claims" (App. Br. 12). Appellants particularly note that "independent claims 4, 11 and 13 recite, among other things, that the antislip zones comprise a mixture of elastic fibers and inelastic fibers. *Sherrod* fails to teach or suggest fibrous antislip zones because the reference only discloses a coating" (*id.* at 13).

Appellants urge that Kline fails to remedy *Sherrod*'s shortcoming in this regard, because the relevant portions of Kline cited by the Examiner are "related to the backsheet rather than to an anti-skid coating" (*id.* at 14).

Thus, Appellants argue, even if one of ordinary skill in the art were to follow the teachings of Kline and Sherrod, Kline's outer backsheet would be covered by the Sherrod's anti-skid coating, and the result would not be anti-slip zones "'adapted to come in contact with said body facing surface of said wings' as required by independent claim 4 or 'contactable with predetermined areas of the inner surfaces of the . . . wing portions' as required by independent claims 11 and 13" (*id.*).

In view of the positions advanced by Appellants and the Examiner, the issue with respect to this rejection is whether the Examiner failed to make a *prima facie* case that an ordinary artisan viewing Kline and Sherrod would have considered it obvious to include anti-slip zones meeting the limitations of independent claims 4, 11, and 13 on disposable diapers.

FINDINGS OF FACT

5. Kline discloses "an absorbent article with an improved fastening system that provides easier and more reliable fastening performance including improved resistance to disengagement during article use, thus requiring less fastening material than the prior art, for the same level of fastening security" (Kline, col. 1, ll. 53-58).

6. Figure 1 of Kline, reproduced below, "is a plan view of one embodiment of the article as a diaper 20 in a flat configuration with portions of the structure being cut-away to show the construction of the diaper 20" (*id.* at col. 3, ll. 55-58):

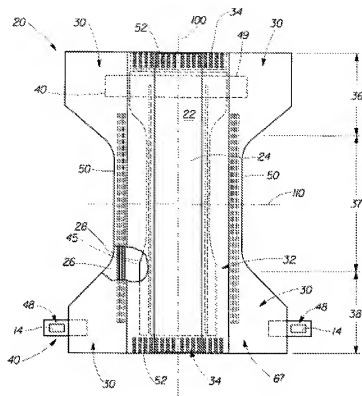


Fig. 1

Kline's Figure 1 shows diaper 20, which comprises "a liquid pervious topsheet 24; a liquid impervious backsheet 26; an absorbent core 28 which is preferably positioned between at least a portion of the topsheet 24 and the backsheet 26; opposite side panels 30; elasticized leg cuffs 32; a waist feature 34; and a surface fastening system 40" (Kline, col. 3, ll. 60-65).

7. Kline discloses:

The backsheet 26 or any portion thereof, may be elastically extensible in one or more directions. In one embodiment, the backsheet 26 may comprise a structural elastic-like film ("SELF") web. A structural elastic-like film web is an extensible material that exhibits an elastic-like behavior in the direction of elongation without the use of added elastic In alternate embodiments, the backsheet 26 may

comprise elastomeric films, foams, strands, or combinations of these or other suitable materials with nonwovens or synthetic films.

(*Id.* at col. 5, ll. 5-17.)

8. Kline discloses:

The diaper 20 may also comprise side panels 30. The side panels 30 may be elastic or extensible to provide a more comfortable and contouring fit by initially conformably fitting the diaper 20 to the wearer and sustaining this fit throughout the time of wear well past when the diaper 20 has been loaded with exudates since the elasticized side panels 30 allow the sides of the diaper 20 to expand and contract. The side panels 30 may also provide more effective application of the diaper 20 because even if the diaperer pulls one elasticized side panel 30 farther than the other during application, the diaper 20 will “self-adjust” during wear.

(*Id.* at col. 6, l. 58 through col. 7, l. 1.)

9. Kline discloses:

For a diaper 20, the surface fastening system 40 preferably comprises two or more second fastening elements 48 as shown in FIG. 1. In FIG. 1, second fastening element 48 is disposed on one of the two side panels 30 in the second waist region 38. The second fastening element 48 may be disposed in the second waist region 38 on the inner surface 67, on the backsheet 26, or otherwise attached to the side panel 30 in the second waist region 38 in any fashion known in the art. The second fastening element 48 may either be discrete separate elements affixed to the diaper 20 or a unitary piece of material that is neither divided nor discontinuous with an element of the diaper 20.

(*Id.* at col. 8, ll. 6-17.)

10. Regarding the diaper's fastening system, Kline discloses that "[a]dhesives, and hook and loop are two common types of retaining elements. Generally, any known retaining element 14 suitable for a surface fastening system 40 is acceptable" (*id.* at col. 8, ll. 51-54).

11. Kline also discloses that the fastening system may be optimized "to achieve a certain resistance to peel mode disengagement. For example, changes in design, structure, attachment and/or material may affect the resistance of the surface fastening system 40 to peel mode disengagement" (*id.* at col. 14, ll. 39-42).

12. Sherrod discloses "an absorbent article that includes: a vapor-permeable liquid-impermeable bottomsheets having an interior surface and an exterior surface; an absorbent structure positioned adjacent the interior surface; and a non-adhesive skid-resistant coating applied to the exterior surface such that the bottomsheets remains vapor-permeable after application of the coating" (Sherrod [0004]).

13. Sherrod discloses:

The absorbent article 20 is useful for the following applications without limitation: as a bed pad, a baby changing pad, a bib, a table cloth, or a painter's drop cloth. The absorbent article 20 has a generally rectangular shape, although the absorbent article 20 can be any shape or size, with the specific application for the absorbent article 20 determining the appropriate size and shape. The absorbent article can be sized to cover extremely large areas such as floors or gymnasiums. Preferably the absorbent article has an area greater than 100 square inches (15.5 cm²), more preferable the absorbent article has an area greater than 400 square inches (62 cm²), and most preferred the absorbent article has an area greater than about 800 square inches (124 cm²).

(Sherrod [0019].)

14. Sherrod discloses:

[A] non-adhesive skid resistant coating 30 is applied to the exterior surface of the bottomsheets 28. Generally, the coating 30 is applied to a large portion of the exterior surface. However, depending on the absorbent article's size and the anti-skid properties of the coating 30 utilized, it can be necessary to only coat a portion of the bottomsheets 28. The coating 30 can be utilized either as the absorbent article's only placement system, or in combination with other attachment means such as adhesives, tape, clips, refastenable members, buttons, holders, and the like. For instance, a small area of attachment adhesive could be utilized in order to hold each corner of the absorbent article 20, while the coating 30 secures the remainder of the absorbent article 20.

(Sherrod [0037].)

15. Damberg discloses methods of making “formed parts from polymeric adhesives and elastic and/or inelastic ingredients in a short forming time of less than 5 minutes. The elastic and/or inelastic ingredients are usually waste industrial products such as ground or shredded rubber, cork granules or polyvinyl chloride particles” (Damberg, col. 1, 54-59).

16. In the lone example, Damberg uses granulated rubber to prepare “a rough-surfaced tough resilient tile suitable for use as a tough skid-resistant sports or recreation surface” (*id.* at col. 5, 56-58).

PRINCIPLES OF LAW

“In proceedings before the Patent and Trademark Office, the Examiner bears the burden of establishing a prima facie case of obviousness based upon the prior art.” *In re Fritch*, 972 F.2d 1260, 1265 (Fed. Cir. 1992).

In *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007), the Supreme Court rejected a “rigid approach” to the obviousness question, and instead

emphasized that “[t]hroughout this Court’s engagement with the question of obviousness, our cases have set forth an expansive and flexible approach” *Id.* at 415. The Court also rejected the use of “rigid and mandatory formulas” as being “incompatible with our precedents.” *Id.* at 419; *see also id.* at 421 (“Rigid preventative rules that deny factfinders recourse to common sense, however, are neither necessary under our case law nor consistent with it.”).

The Court thus reasoned that the analysis under 35 U.S.C. § 103 “need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.* at 418; *see also id.* at 421 (“A person of ordinary skill is . . . a person of ordinary creativity, not an automaton.”).

While it emphasized a flexible approach, the Court nonetheless reaffirmed that “a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *Id.* at 418.

Rather, as the Court stated:

[I]t can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements *in the way the claimed new invention does* . . . because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known.

Id. at 418-419 (emphasis added); *see also id.* at 418 (requiring a determination of “whether there was an apparent reason to combine the

known elements *in the fashion claimed by the patent at issue*") (emphasis added).

Accordingly, as our reviewing court has stated, "[i]n determining whether obviousness is established by combining the teachings of the prior art, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art." *In re GPAC Inc.*, 57 F.3d 1573, 1581 (Fed. Cir. 1995) (internal quotations omitted).

ANALYSIS

We agree with Appellants that the Examiner failed to make a prima facie case that an ordinary artisan viewing Kline and Sherrod would have considered it obvious to include anti-slip zones meeting the limitations of independent claims 4, 11, and 13 on disposable diapers.

As we understand it, the Examiner's position, at least in part, is that Kline's "fastening system 40 is the anti-slip zone and therefore no portion of said system . . . fall outside said zone" (Ans. 17). We acknowledge that Kline's fastening system can include a number of different materials, including hook and loop or adhesives, and can be optimized with respect to peel disengagement strength (FF 9-11).

However, the Examiner has not explained how Kline's teachings regarding its fastening materials suggest the limitations in claims 4 and 11 requiring the anti-slip zones to be a mixture of elastic fibers made of a plastic elastomer and inelastic fibers made of a thermoplastic material, or suggest the limitation in claim 13 requiring the anti-slip zones to be a mixture of elastic and inelastic fibers. We are therefore not persuaded that Kline's fastening components meet the requirements of the claimed anti-slip zones.

The Examiner also posits that applying Sherrod's anti-skid coating to Kline's diaper would have resulted in diapers meeting the limitations of independent claims 4, 11, and 13. We acknowledge that the liquid impervious outer backsheet 26 of Kline's diaper can include elastic materials (FF 7). We also note that the side panels 30 of Kline's diaper, which correspond the claimed "wings," can be elastic (FF 8). We further note Sherrod's disclosure that providing anti-skid material to the back of absorbent sheets can enhance the stability of the sheets when used as a bed pad, a baby changing pad, a bib, a table cloth, or a painter's drop cloth (FF 13-14).

However, the Examiner points to no disclosure in Kline suggesting that its diaper's outer layer should have anti-skid portions. Nor has the Examiner identified any teaching in Sherrod, or in the knowledge generally available to one of ordinary skill in this art, suggesting that it would be desirable, or even suitable, to provide a disposable diaper like Kline's with a skid-resistant coating used to stabilize the position of bed pads, changing pads, table cloths, or painter's drop cloths.

We therefore agree with Appellants that the Examiner has not made a prima facie case that an ordinary artisan viewing Kline and Sherrod would have considered it obvious to include anti-slip zones meeting the limitations of independent claims 4, 11, and 13 on disposable diapers. Accordingly, we reverse the Examiner's rejection of those claims, and their dependents, as being obvious over Kline and Sherrod.

Claims 5, 12, 15, 17, and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kline, Sherrod, and Damberg (Ans. 9-12). Claims 5, 12, 15, 17, and 21 depend ultimately or directly from either claim 11 or claim 13.

The Examiner relies on Damberg's teaching of "a composite material comprising elastic fibers and inelastic polymeric binder fibers" to meet the limitations of those claims (Ans. 9). The Examiner concludes that a person of ordinary skill in the art would have considered it obvious to modify the "device of Kline and Sherrod by manufacturing the anti-slip zone from material as taught by Damberg by bonding the mixture of elastic and inelastic fibers taught by Damberg to the nonwoven fabric taught by the combined teaching of Kline and Sherrod to ease manufacturing costs and procurement of materials" (*id.* at 10).

The Examiner does not, however, identify any teaching in Damberg's teachings of making rubber tiles from waste rubber (*see* FF 15, 16) that remedies the deficiencies, discussed above, with respect to combining Kline and Sherrod to provide anti-slip zones on a disposable diaper, as recited independent claims 11 and 13. We therefore also reverse the Examiner's rejection of claims 5, 12, 15, 17, and 21 as being obvious in view of Kline, Sherrod, and Damberg.

SUMMARY

We reverse the Examiner's rejection of claim 4 under 35 U.S.C. § 112, first paragraph, as lacking enablement.

We reverse the Examiner's rejection of claims 2-4, 6-11, 13, 14, 16, 18, 19, and 20 under 35 U.S.C. § 103(a) as being unpatentable over Kline in view of Sherrod.

We also reverse the Examiner's rejection of claims 5, 12, 15, 17, and 21 under 35 U.S.C. § 103(a) as being unpatentable over Kline, Sherrod, and Damberg.

REVERSED

cdc

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